

REMARKS

The present Amendment amends claims 2 and 3, and leaves claims 1 and 4-7 unchanged. Therefore, the present application has pending claims 1-7.

Minor editorial amendments were made to claims 2 and 3. These amendments do not change the scope of claims 2 and 3.

Information Disclosure Statement

An Information Disclosure Statement (IDS) was filed on July 14, 2003. However, the Examiner has not returned an initialed copy of the IDS filed on July 14, 2003. Therefore, Applicants submit herewith, a copy of the IDS filed on July 14, 2003. Applicants respectfully request the Examiner to consider the IDS and to provide an initialed copy, acknowledging consideration of the references.

Claim for Foreign Priority

Applicants filed a claim for foreign priority under 35 U.S.C. §119, claiming the right for priority based on Japanese Patent Application No. 2002-364551. The claim for foreign priority and the certified copy of the priority document were filed on July 14, 2003. In the detailed Office Action, the Examiner acknowledges Applicants' claim for foreign priority. However, the Examiner has not acknowledged the receipt of the certified copy of the priority document. Therefore, Applicants respectfully request the Examiner to check boxes 12, (a) and (1) on the Office Action Summary, to acknowledge the receipt of the certified copy of the priority document.

35 U.S.C. §102 Rejections

Claims 1-7 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,567,405 to Borella et al. ("Borella"). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-7 are not taught or suggested by Borella,

whether taken individually or in combination any of the other references of record.

Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe features of the present invention. Specifically, amendments were made to the claims to more clearly recite that the present invention is directed to a communication method, a third information processing apparatus, a second information processing apparatus, and a first information processing apparatus as recited, for example, in independent claims 1-3, 6 and 7.

The present invention, as recited in claim 1, and as similarly recited in claims 2, 3, 6 and 7, provides a communication method in a communication system. The communication system includes a first information processing apparatus and a second information processing apparatus, which perform communication with each other over a network. The method includes providing on the network, a third information processing apparatus for pooling a plurality of for-rent-out virtual addresses to be temporarily used by the first information processing apparatus. The method also includes requesting, by the first information processing apparatus, the third information processing apparatus to rent out a virtual address when the first information processing apparatus performs the communication with the second information processing apparatus. The method further includes renting out, by the third information processing apparatus, the virtual address based on the request. Furthermore, the method includes sending out, by the first information processing apparatus, a communication packet whose transmission-source address is set up by the virtual address and whose transmission-destination address is set up by an

address of the second information processing apparatus. The prior art does not disclose all of these features.

As described on page 6, lines 10-22 of the present specification, an object of the present invention is to provide a communication apparatus, method and system that use the global and fixedly-allocated IP addresses for identifying communication-performing concerned parties and the appliances corresponding thereto.

Simultaneously, even if a third party intercepts a packet in the network, the apparatus, method and system of the present invention make it impossible for the third party to judge which concerned party or which corresponding appliance are performing communication with each other. Accordingly, an object of the present invention is to provide a communication method or an information processing apparatus in which a privacy issue would not be raised even if an inherent address is given to each of the terminals.

As further described on page 23, line 26 to page 24, line 11 of the present specification, according to the present invention, despite the fact that the global and fixedly-allocated address of each information processing apparatus has been used as the transmission-destination address assigned to a communication packet on the network, even if a third party intercepts the communication packet on the network in order to know which information processing apparatus and which information processing apparatus are performing the communication, the third party finds it impossible to identify or to judge this situation. This condition results in an effect of making it possible to protect privacy in the communication and to enhance reliability in the communication.

More specifically, in the present invention, the real address of the first information processing apparatus is known only by the second information

processing apparatus, except for the provisional address server (i.e., the third information processing apparatus). In this way, there is no danger of the real address being known by the third party with malice, a lack of privacy, network attack, etc.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record, particularly Borella, whether taken individually or in combination with any of the other references of record.

Borella teaches a method and protocol for distributed network address translation. However, there is no teaching or suggestion in Borella of the communication method, the third information processing apparatus, the second information processing apparatus, or the first information processing apparatus as recited in claims 1-3, 6 and 7 of the present invention.

In contrast to the present invention, the object of the Borella is to reduce the burdens of address translation in a router. For example, as described in Borella in column 2, lines 36-37, "Thus, it is desirable to provide NAT without large computational burdens in a NAT router."

Borella discloses a system for Distributed Network Address Translation ("DNAT"). DNAT is used with small office/home office ("SOHO") networks or other legacy local networks that have multiple network devices using a common external network address to communicate with an external network. The system includes a port allocation protocol to allocate globally unique ports to network devices on a local network. Individual network devices on SOHO networks replace local source ports with the globally unique ports. The globally unique ports are used in a combination network address with a common external network address such as an Internet

Protocol ("IP") address, to identify multiple network devices on a local network to an external network such as the Internet, an intranet, etc. DNAT helps overcome the large computation burdens encountered when network address translation is done by a router and helps extend the life of older versions IP using 32-bit addressing.

One feature of the present invention, as recited in claim 1, and as similarly recited in claims 2, 3, 6 and 7, includes providing on the network, a third information processing apparatus for pooling a plurality of for-rent-out virtual addresses to be temporarily used by the first information processing apparatus. Borella does not disclose this feature. To support the assertion that Borella teaches this feature, the Examiner cites Fig. 9 and column 9, lines 17-37. However, neither the cited text nor any other portion of Borella teaches the claimed feature. For example, as shown in Fig. 9 and as described in the cited text, Borella discloses a method 130 for allowing distributed network address translation. In this method of address translation, a first network device requests one or more globally unique ports from a second network device, where the first and second network devices are on a first computer network. The globally unique ports are used to replace default ports in protocol layers in layered protocol stack 42 on the first network device. In addition, the globally unique ports are used to create a combination network address including a globally unique port and a common external address to communicate with a second external computer network without address translation. This is quite different from the present invention, where a third information processing apparatus pools a plurality of for-rent-out virtual addresses to be temporarily used by the first information processing apparatus.

Other features of the present invention, as recited in claim 1, and as similarly recited in claims 2, 3, 6, and 7, include requesting, by the first information processing

apparatus, the third information processing apparatus to rent out a virtual address when the first information processing apparatus performs the communication with the second information processing apparatus, and renting out, by the third information processing apparatus, the virtual address based on the request. Borella does not disclose these features. To support the assertion that Borella teaches these features, the Examiner again cites Fig. 9 and column 9, lines 17-37. However, neither the cited text, nor any other portion of Borella teaches or suggests the claimed feature. For example, as previously discussed, the cited text merely discloses a method 130 for allowing distributed network address translation. The steps of Borella's method for allowing distributed network address translation do not include a step of requesting, by the first information processing apparatus, the third information processing apparatus to rent out a virtual address when the first information processing apparatus performs the communication with the second information processing apparatus, as in the present invention. Furthermore, Borella's method for allowing distributed network translation does not include a step of renting out, by the third information processing apparatus, the virtual address based on the request, as in the present invention.

Yet another feature of the present invention, as recited in claim 1, and as similarly recited in claims 2, 3, 6, and 7, includes sending out, by the first information processing apparatus, a communication packet whose transmission-source address is set up by the virtual address and whose transmission-destination address is set up by an address of the second information processing apparatus. Borella does not disclose this feature. To support the assertion that Borella teaches this feature, the Examiner cites Fig. 10 and column 9, lines 25-45. However, neither the cited text nor any other portion of Borella teaches or suggests the claimed feature. For

example, as shown in Fig. 10, and as described in the accompanying text in column 10, lines 25-45, Borella discloses a method 140 for distributed network address translation. A request is sent from a first network device on a first computer network to a second network device on the first computer network. The request is for a second external network and includes a combination network address identifying the first network device on the first network. The combination network is constructed by the method 130 (see previous discussion regarding Fig. 9), and includes a globally unique port and a common external address to identify the first computer network to the second external network. The second network device routes the request from the first computer network to the second external network. The second network device on the first computer network receives a response from the external second computer network at the external network address identifying the first network from the combination network address. In addition, the second network device on the first computer network routes the response to the first network device on the first computer network using the globally unique port from the combination network address. This is not the same as the present invention. Specifically, Borella's method for distributed network address translation, as shown in Fig. 10, does not include a step of sending out, by the first information processing apparatus, a communication packet whose transmission-source address is set up by the virtual address and whose transmission-destination address is set up by an address of the second information processing apparatus, as in the present invention.

Therefore, Borella fails to teach or suggest "providing, on said network, a third information processing apparatus for pooling a plurality of for-rent-out virtual addresses to be temporarily used by said first information processing apparatus" as recited in claim 1, and as similarly recited in claims 2, 3, 6, and 7.

Furthermore, Borella fails to teach or suggest “requesting, by said first information processing apparatus, said third information processing apparatus to rent out a virtual address when said first information processing apparatus performs said communication with said second information processing apparatus” and “renting out, by said third information processing apparatus, said virtual address on the basis of said request” as recited in claim 1, and as similarly recited in claims 2, 3, 6, and 7.

Further, Borella fails to teach or suggest “sending out, by said first information processing apparatus, a communication packet whose transmission-source address is set up by said virtual address and whose transmission-destination address is set up by an address of said second information processing apparatus” as recited in claim 1, and as similarly recited in claims 2, 3, 6, and 7.

Therefore, Borella does not teach or suggest the features of the present invention, as recited in claims 1-7. Accordingly, reconsideration and withdrawal of the 35 U.S.C. §102(e) rejection of claims 1-7 as being anticipated by Borella are respectfully requested.


The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references used in the rejection of claims 1-7.

In view of the foregoing amendments and remarks, Applicants submit that claims 1-7 are in condition for allowance. Accordingly, early allowance of claims 1-7 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (referencing Attorney Docket No. 500.42924X00).

Respectfully submitted,

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